

**INSULIN PRODUCING CELLS DERIVED
FROM HUMAN EMBRYONIC STEM CELLS**

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of International application PCT/IL02/00369 filed May 14, 2002, the entire content of which is expressly incorporated herein by reference thereto, and claims the benefit of US provisional application no. 60/328,798 filed October 15, 2001, the entire content of which is also expressly incorporated herein by reference thereto.

ABSTRACT

The present invention discloses insulin producing cells derived from human embryonic stem cells. Methods of generating, enriching, selecting, cloning and isolating populations of insulin-producing embryonic cell lines are disclosed. Insulin production in these cells can be glucose responsive or otherwise regulatable. Advantageously, these insulin producing cells can be stable cell lines derived from stable transfectants of hESC. Methods of using these cells, cell populations or cell lines particularly for cell replacement therapy are also disclosed.